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ORGANIZATIONAL EXCELLENCE

Progress and Scope

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Michael Williamson
Deputy Secretary
Department of Environmental
and Natural Resources

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Introduction

The stewardship of the North Carolina's Environment and Natural Resources is not solely based on the development and enforcement of laws, rules, policy and procedures. Developing an organization possessing a singular strategic vision, effective and efficient processes, and supported by proficient, competent, and motivated employees is a major component of our environmental and natural resource programs. To optimally impact preservation and improvement of our environment and natural resources we must optimize how we operate. The means and methods we use to plan and manage the requirements of our mission influence the state of our environment. The concept of organizational excellence and high performance in our leadership, processes, and methods is an essential component of mission success. It is a priority for the Department of Environment and Natural Resources to become a model of excellence in effectiveness and efficiency.

The direction for attaining environmental and organizational excellence is found in the DENR Strategic Plan. A key part of that plan is the Organizational Excellence Goal of being "a model of excellence in public service by emphasizing continuous improvement in communication, teamwork, customer focus, and measurable results".

All levels of DENR have made significant progress in attaining our goal. The effort and accomplishments have been the result of organizations and individuals having a vision of excellence and the fortitude to change the way we conduct our business of serving the public. The purpose of this report is to highlight the achievements of our efforts. We have made great strides toward implementing high performance. We are enhancing our ability to effectively and efficiently meet our mission of better serving the public and ensuring that our services and management methods support the public and the critical mission of providing leadership, education, and advocacy for the responsible stewardship of North Carolina's environment and natural resources.

A handwritten signature in dark ink, reading 'Christopher S. Russo'.

Christopher S. Russo
Director
Organizational Effectiveness and Quality

A handwritten signature in dark ink, reading 'Michael Williamson'.

Michael Williamson
Deputy Secretary
Department of Environment
and Natural Resources



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Organizational Excellence Strategy

We are formally integrating high performance and quality methods into our management systems to improve environmental outcomes. The objective of Organizational Excellence is:

Integrated actions that that results in DENR being an organization that efficiently and effectively demonstrates customer focus, monitors and continuously improves core processes, and posses a highly skilled and empowered work force.

The following chart (see next page) portrays our strategy for becoming a high performance organization. The chart provides a summary of the steps we are taking to accomplish organizational change, what we have accomplished thus far, and the critical next steps in successfully meeting our strategic objectives.

Our strategy for change is directed toward six focus areas:

1. **Strategic Planning-** We are developing strategic and operational plans at all program levels that are focused on measurable objectives and linked to both the Department's Strategic Plan and the Department's Core Processes.
2. **Leadership-** Senior leadership has set a clear operational direction for the entire organization supported by clear and visible values, and specific expectations. Leaders are supporting each other and are focused on the common direction. Most importantly, coaching emerging leaders through encouraging their creativity and initiative.
3. **Human Relations-** We are improving how we develop our leaders and employees skills to ensure proficiency in meeting all work requirements and DENR's objectives. We are creating an organization with a work environment conducive to performance excellence by recognizing success, encouraging full participation in decisions, and providing personal and organizational growth.
4. **Process Improvements-** We are systematically examining and improving core processes (or developing new service designs) with a focus on efficiency, effectiveness, and customer requirements.
5. **Information and Analysis-** We are developing a performance measurement system that allows us to gauge success and provide a means to make fact based decisions when planning.
6. **Customer Satisfaction-** We are formally identifying the requirements, expectations, and preferences of customers. We are considering our customers in our planning and decision making. Most importantly, we are identifying better ways to develop relationships with our customers and to determine the degree of their satisfaction with our products and services.

The following chart provides an overview of the successes we have achieved in our efforts to date. It also provides examples discussed in this report. Finally, it indicates areas of continued focus.

DENR Organizational Excellence Strategy and Progress

The Organizational Excellence Objective: Integrated action that results in DENR being an organization that efficiently and effectively demonstrates customer focus, monitors and continuously improves core processes, and possesses a highly skilled and empowered work force.

Key Focus Areas

Strategic Planning	LEADERSHIP	HUMAN RELATIONS	Process Improvement	Information and Analysis	Customer Satisfaction
Department Plans	Department Leadership	Competencies	Core Process Improvement	Metrics	ID Customers
Division Plans	Division Leadership	Retention	Department Teams	Trend Analysis	Customer Expectations
Program Plans	Emerging Informal Leadership	Communication <ul style="list-style-type: none"> Human Electronic Cross Div. Cross Dept. 	Cross Departmental Teams	Scorecards	Customer Approval
	Proficiency (Train/Coaching)	Recognition	Cross Divisional Teams	Process Measures	
		Pers. Management Methods	Group Problem Solving		
		Employee Satisfaction	Process Improvement Model and New Service Design		

Successes

Strategic Planning	LEADERSHIP	HUMAN RELATIONS	Process Improvement	Information and Analysis	Customer Satisfaction
DENR Strategic Plan	Senior Leadership Priorities	Organizational Competencies (12)	Core Processes <ul style="list-style-type: none"> Conservation Outreach Regulation Recreation Spt. Processes 	METRICS Team	Customer Service Center
Division Plans <ul style="list-style-type: none"> DWM AQ P&S LR DPPEA MFD 	Quality Leadership Team	Manager Competencies (8)	Department Teams (39) <ul style="list-style-type: none"> PRIT Retention Internal /External Communication Permit Communication Regional Leasing NPDS Fast Track On-Site Waste Water Composting Compliance & Enforcement 	Permit Measures	CSC WEB Page
	Leadership Creed	Retention Strategy <ul style="list-style-type: none"> Broad Banding Salary Adjustments 		Enforcement Measures	Permit Tracker
	Managers Forum	Employee Recognition		Admin. Scorecard	One-Stop
		Employee Survey		PPB Measures	Customer Service Training Curriculum
		Training Curriculum			
		Communications Plan <ul style="list-style-type: none"> Human Electronic Cross Divisional 			

Next Steps

Strategic Planning	Human Relations	Process Improvement	Accountability (Reviews and Measures)	Customer Service
Review Current DENR Strategic Plan	Repeat Employee Survey	Improve Core Processes	Quarterly Program Reviews	Publish Policy
Link DENR Plan to Progress Board Plan	Continue Retention Efforts	Continue Permit Improvement	Interim Management Reviews	Managers Training (3d Phase)
Refine and Expand number of Division Plans	Expand Competency Training	Begin Natural Resources Process Improvement	Refine and Integrate Measures <ul style="list-style-type: none"> Organizational Process Individual 	Customer Service Measures
	Sr. Leader Curriculum	Integrate Dept.'s Data Management		Customer Service Survey Design & Method
	Move to Performance Management System			

Committed Resources

QLT/QGT	Facilitators	DENR Strategic Plan	METRICS Team	Supporting Policy
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Strategic Focus and Alignment

DENR has developed a strategic plan that clearly defines its mission, vision of success, and values to all levels and programs of the organization. Most importantly we have defined our goals and objectives for success. The goals are focused on –

- ✓ Clean Water
- ✓ Clean Air
- ✓ Stewardship of the Environment
- ✓ Environmental Awareness and Outreach, and
- ✓ Organizational Excellence.

The strategic plan provides measurable objectives for determining environmental outcomes. The plan is the basis to determine the degree to which we are meeting our environmental goals. By creating the Department's common strategic direction, we are ensuring that our resources are aligned and have a common definition of success. To further ensure continuity of action and effort, our program divisions are required to develop complementing strategic plans that link their programmatic efforts to the common goals and objectives established in the DENR Strategy. To date 33% of our divisions have developed or are developing the plans. The remaining divisions are beginning assessments of their current strengths and weaknesses in preparation for plan development. The Department's objective is to have 100% of the plans developed by the beginning of CY 2002 to formally integrate priorities, meet our environmental stewardship responsibilities and our mission.

Core Process Identification

DENR has identified its core processes as part of its strategic planning. Specifically, the processes that are critical in meeting the Department's Mission. The five Core Processes are--

- ✓ Conservation
- ✓ Outreach
- ✓ Regulation
- ✓ Recreation
- ✓ Management Support

The core processes include 28 key activities that we have identified as critical to accomplishing DENR's mission.

The identification of Core Processes and their critical activities has enabled the department to focus on key process improvements that have the most impact on accomplishing our mission, improving our products, and meeting our customer's needs.

Service Excellence

DENR is transforming itself into a customer-focused organization. Specifically, we are integrating process methods, service design, and products to meet clearly defined internal and external customer service needs.

Our process improvement and new service design efforts include participation from the customer sectors. Inclusion of customers is a key priority in our process execution, problem solving, and decision making.

Current successes that focus on customer service and meet our objective of service excellence include-

- ✓ The DENR Customer Service Center (CSC) which was created to serve as a single point of contact for all of the Department's programs. The CSC provides general information, technical environmental information, and will help determine environmental permitting needs for customers. The Center is accessible by toll free telephone or through the Internet.
- ✓ A cross-divisional Team created the One Stop Permitting Assistance System. The new service design is based on the needs of our small business customers. The system provides a single entry point where businesses and citizens can seek assistance in identifying state and federal environmental requirements related to a proposed project. Regional Permit Coordinators are available to guide applicants through the regulatory process, develop a project plan including integrating permits, and provide a permit decision time frame. Regional One Stop Permit Assistance offices are located in Wilmington and Mooresville as part of a first phase test of the system and concept. The service will be expanded to all DENR Regional Offices based on the results of those pilots and the degree of customer satisfaction achieved.
- ✓ Thirteen major Permit processes have been flowcharted and made available to customers to ensure better understanding of the process and clarify expectations about the times required to process and approve a specific permit application. Fact sheets were also developed that support application information to assist customers with their application(s).
- ✓ DENR has instituted an annual Employee Satisfaction Survey. The survey (63% were returned in 1999) measures all aspects of the employee's satisfaction with the departments leadership, processes, training, support, and the employee's sense of personal and mission accomplishment.
- ✓ The DENR recognition program recognizes service excellence of individual employees, Teams, and specific offices. The program is designed to provide on the spot recognition as well as recognize contributions to the departments Organizational Excellence Goal at an annual employee appreciation event.

Trend and Performance Measurement

Planning only provides a direction of action. Continuous measurement of both program progress and trends is necessary to support decision-making, identify improved or additional actions, and to determine environmental outcomes of our programs. The department has developed a data collection and performance analysis system to support—

- ✓ a better understanding of departmental activities,
- ✓ provide a fact based means for establishing improvement goals,
- ✓ tracking performance and operational changes, and
- ✓ support more effective management decision-making.

The system currently collects, analyzes, interprets, and distributes key process and output data from 12 permitting areas. Further, a scorecard was developed to measure the effectiveness of administrative support (e.g., Human Resources, Budget and Planning, Comptroller, Purchasing and Services, and Information Technology). The scorecard measures process and output data for both the supporting offices and the supported divisions to determine effectiveness of administrative processes and identify areas to be improved.

Environmental and administrative divisions use the performance measures to support operational decision-making. The measures are also a key component of interim management and program reviews conducted by senior management.

Competency and Proficiency of the Work Force

Competencies are the specific behaviors, knowledge, and motivation that an employee must demonstrate in order to be effective in a job or role. Skills required at all levels of the organization are:

- ✓ Communication
- ✓ Customer Service Focus
- ✓ Organizational Awareness
- ✓ Adaptability
- ✓ Teamwork
- ✓ Decision-Making
- ✓ Self Management Strategic Working Relationships (Partnerships)
- ✓ Technical Knowledge
- ✓ Continuous Improvement
- ✓ Managing Conflict

Other actions to increase personnel competency with in DENR include:

- ✓ Water Quality has developed a voluntary program that consists of three months of seminars to cross train its employees on all core processes and functions that the division is responsible for. The program clarifies the interrelationships of the various activities of the division. Most importantly, the training familiarizes all employees on all of the technical requirements of the various job positions increasing the ability to leverage manpower in cases of high workload or position vacancies.
- ✓ The Department has developed a mandatory customer service curriculum that consists of three phases:
 - Introduction to the concepts of customer service
 - Customer service in the field environment
 - Developing and managing a customer service program

The initial customer service training has been presented to 25% of current DENR employees and to all Regional Office personnel. Further, introductory training has been integrated with the New Employee orientation program and is presented to all new employees within 30 days of their employment. The field customer service phase has been presented to approximately 12% of the department staff.

Leader and Manager Competencies

In addition to organizational competencies associated with all employees, we have developed core leadership/management competencies—

- ✓ Strategic Thinking
- ✓ Aligning Performance for Success (Performance Management)
- ✓ Building Trust
- ✓ Facilitating Change
- ✓ Visionary Leadership
- ✓ Innovation
- ✓ Coaching and Mentoring
- ✓ Building Successful Teams

DENR is sponsoring a Managers Forum for all line and mid-level managers. The forum emphasizes and provides a means for managers to discuss the manager competencies, share information, determine ways to improve their skills, and to mentor each other in successfully leading DENR. The Forum has also developed a guide for new managers that includes information a new manager must do and know to be successful.

Staff Retention

A cross-divisional Team identified professional staff retention as a key to performing core processes and maintaining continuity of service. It was found that the turnover in engineers conducting environmental permitting was over 70% in some permitting areas. The department accepted the Team's recommendations and successfully pursued a classification upgrade for engineers and related disciplines. Funds were identified and applied to provide initial equity compensation adjustments. The department has elevated pay equity adjustments as a principal priority of the FY 2001-2002 budget submission.

Continuous Improvement of Core Processes

Continuous improvement, as the name implies, is an ongoing process that ensures that processes are performing optimally through identifying opportunities for improvement, gathering customer input, planning, implementing, checking (measurement), and basing decisions for next steps on data. Continuous improvement uses staff and management input and is centered on the needs of customers. The department considers continuous improvement of our core processes a major priority. Most importantly, the department is committed to a system of cross-functional, cross-divisional, and departmental problem solving and planning to optimize our operations.

The Department has chartered Teams to deal with cross-functional improvement issues identified by trend analysis and management reviews that inhibit optimum process execution. The processes teams mirror key results in strategic direction and leadership, process improvement, customer satisfaction, human relations and information management.

Strategic Direction/Leadership

1. Quality Leadership Team
2. Quality Guidance Team
3. METRICS
4. Facilitators Network

Permit Process Improvement

5. Supply and Services Process Action Team
6. Environmental Process Action Team
7. Permit Process Action Team
8. Permit Reform Implementation Team
9. Enforcement Assessment Team
10. Permit Improvement Steering Team
11. Permit Communications Process Improvement Team
12. Regulatory Program Staff Retention Team
13. Stewardship Through Enforcement Principles Team
14. Non-Discharge Unit Process Improvement Team
15. One Stop Permit Assistance New Service Design Team
16. Composting Process Improvement Team
17. DENR/DOT Interdepartmental Permit and Mitigation Process Improvement Team
18. On-Site Wastewater Permit Process Improvement Team

Human Relations

19. DENR External Communication Process Improvement Team
20. DENR Internal Communication Process Improvement Team
21. DENR Employee Recognition Team
22. Archdale Building Beautification Team
23. Parker-Lincoln Management Process Improvement Team

24. Human Resources Development Process Improvement Team
25. Employee Satisfaction Survey Design Team
26. Managers Forum Steering Team
27. Employee Development System Process Action Team

Information Management

28. Facility Identifier Team
29. DENR Web Improvement Team
30. ITS Steering Team
31. Electronic Desktop Management and Infrastructure Team

Internal Process Improvement

32. DENR Sustainability Team
33. Regional Office Leasing Process Improvement Team
34. Mail Distribution Process Action Team
35. GIS New Service Design Team
36. Customer Service Process Improvement Team
37. Electronic Travel Planning and Processing Team
38. Temporary Employee Hiring Process Action Team
39. Accounts Payable Process Improvement Team

1. Quality Leadership Team

The QLT is a standing Team responsible for developing the management strategy for DENR. The team is also responsible for developing policies related to DENR's Organizational Excellence goal. Specifically, the team designs and monitors the departments' organizational effectiveness and quality process. The QLT oversaw the development of the DENR Strategic Plan that is composed of six Goals and ten key objectives. The team has also developed a standardized policy for organizational excellence and customer service. Finally, the team has identified six organizational competencies that are critical to DENR's mission accomplishment.

2. Quality Guidance Team (QGT)

The QGT is a standing team of 15 representatives of DENR. The representatives are functionally, employment level, and geographically representative of DENR. The team is responsible for implementing the organizational excellence goal and objectives of the DENR Strategic Plan. The team advises the QLT on the state of implementation and the executive priorities needed for successful transition to the leadership's high performance vision. The team also acts as a liaison to divisions and assists in providing high performance and quality consultation, support, and resources. The QGT developed a standardized process for implementing high performance methods and culture. The Organizational Cookbook is a step by step guide on how to improve an organization. The cookbook is a roadmap from assessing the organization, and establishing performance measures to sustaining continuous improvement. The team also executes a communications plan to inform the organization about the organizational excellence initiative, promote the benefits of quality methods, and to publicize the successes of those who have transitioned to high performance and quality management.

3. Measuring Excellence Through Results, Innovation, and Customer Service Team (METRICS)

The mission of the METRICS team is to increase the use of credible information, at all levels in the organization, to promote fact-based decision making related to environmental protection and natural resource management and processes. The Team facilitates the development of metrics to measure program success over time and to identify opportunities for improvement of core processes or development of new service designs. The METRICS Team has developed a Interim and Annual Program Review methodology based on trend analysis of process, output, and outcome measures. The metrics team developed core measures for environmental permitting and administrative support for use by senior staff in tracking operational success, efficiency, and effectiveness.

4. Facilitators Network (FOXNET)

The Facilitators Network is a chartered support Team composed of 18-35 trained volunteer facilitators within the Department who serve a 2 year tour of duty. The facilitators dedicate up to 20 percent of their time toward facilitating process improvement, strategic planning, new process design, meeting management and facilitation, and problem solving to agencies who request it.

5. Supply and Services Process Action Team (SSPAT)

The SSPAT was chartered to conduct analysis and process improvement of key Department's administrative processes. The team was a cross-departmental team composed of DENR operational division and administrative division staff. The team assessed opportunities to increase the effectiveness and efficiency of generic administrative processes. The team improved the time and leave system by eliminating the previous paper based system and replacing it with a WEB-based automated system. Efforts also eliminated multiple reviews of common processes such as grant proposals, property disposition, and ordering of general supplies. Those processes were flattened through delegation of approval authority at the division level with Department review only as necessary. The teams efforts resulted in an average reduction of 60% in processing times as well as elimination of paper, filing space, and the number of people involved in the processes.

6. Environmental Process Action Team (EPAT)

The EPAT was chartered to determine the optimum structural organization of the Environmental Divisions. They identified issues related to organizational alignment and opportunities to align divisions to better accomplish DENR's missions. The team's efforts resulted in the realignment of the Waste Management Division and the Division of Water Quality. The development of the Air Quality Division (from the Division of Environmental Management) was also a result of the team's process improvement efforts.

7. Permit Process Action Team (PPAT)

The PPAT was chartered to evaluate DENR's permitting processes and identify key areas needing improvement in permitting efficiency and effectiveness. The team developed 20 opportunities in three major areas: improving application quality, improving permit quality, and ensuring continuous permit quality and efficiency. The teams work was showcased along with six other teams from business and government at the Annual North Carolina Quality Conference.

8. Permit Reform Implementation Team (PRIT)

The PRIT was chartered to implement process improvement and measurement actions on the opportunities identified by the PPAT. The team is composed of representatives from all environmental divisions and representatives of industry and environmental groups. The team developed a strategic plan to improve the departments individual permit processes, improve early involvement of customers in permitting and decision making, and simplification of application forms. The team also identified key measures to track permitting, efficiency, effectiveness, and consistency of service. Finally, the team identified retention of environmental staff as an additional root cause of inadequate efficiency in permitting.

9. Enforcement Assessment Team

The Enforcement Assessment Team was a cross-divisional team chartered to assess and improve the effectiveness of the departments environmental enforcement process. The team determined that the department needed to better measure the effect that enforcement has on the desired outcome of compliance. The team identified the need for clear guidance and training in the department to ensure that enforcement and penalty determination uniform in all program enforcement units. Specifically, to develop DENR Enforcement Principles and clear guidance on a systemic approach of integrating enforcement to the six (e.g., education, technical. assistance, inspections, technology, education, planning, and liability) activities/processes that contribute to a positive compliance outcome. The senior staff accepted the recommendations and specific actions are being taken to implement the team's recommendations.

10. Permit Improvement Steering Team (PIST)

The PIST team is composed of Environmental Division Chiefs and is chartered to oversee the systematic implementation of the permit improvement strategy that includes the recommendations from the Permit Reform Implementation Team as well as additional ideas generated by the Team or Senior Staff. The team guides the implementation of the permit reform strategy by the divisions. The team also establishes information technology needs and requirements to develop electronic services, databases, permit tracking, and results measures for the Department.

11. Permit Communications Process Improvement Team

The Permit Communications Team was chartered to improve the permitting communications process. The process improvement initiative focused on internal and external communications as well as communications in relation to customers and suppliers. The team used a customer focused approach and focused on communication among permit writers, stakeholders, and permit applicants. The team developed expectations from those parties and outlined changes needed in communication during the process. Three key improvement areas were identified: giving applicants specific information required in applications, including stakeholders early in the process (instead of at the end), and providing improved public access to permit information.

12. Regulatory Program Staff Retention Team

The Regulatory Staff Retention Team was chartered to determine the extent of retention of permitting staff, the causes, and the methods to increase retention of those critical personnel. The team was composed of environmental permitting division representatives and industry representatives. The team analyzed the state of retention using previous studies, data analyses, survey, and record review. The team confirmed that our retention rate was unsatisfactory when compared to other state agencies, other states, and other North Carolina Government departments. Further, the Team determined the root causes of the our low retention were: level of manager proficiency and leadership, no career development, and the level of compensation was not equitable when compared to other agencies as well as among the divisions. All of these causes led to low morale and affected efficiency and effectiveness of our permitting process. The team also confirmed that operational impact of the low retention was significant. Permit issuance times increased, there was a lack of continuity in customer relations, experience was at a lower than desired level, and there was an unacceptable level of cost in retraining and hiring. The Team developed an action plan and specific actions to be taken to improve the retention of our permitting staffs. Since the report, recommendations of the retention team are being looked at systematically.

13. Stewardship Through Enforcement Principles Team (STEP)

The STEP Team acted on the Enforcement Assessment Team findings by developing enforcement guidelines to ensure consistency throughout the Department and to integrate enforcement with the other seven compliance tools. The team was tasked with developing a new compliance culture; moving from a regulatory agency to an environmental protection agency. Because regulations have become the surrogate for stewardship, a regulatory agency has evolved in DENR instead of an environmental agency. The cross divisional team was tasked to develop a set of guiding principles and methods to move DENR toward a well-balanced compliance based organization. The team has developed consistent measures to measure overall degree of compliance in the state. Finally, the team is developing methods to make enforcement/compliance information better available to the general public.

14. Non-Discharge Unit Process Improvement Team

The Non-Discharge Unit Permitting Team was established to improve the sewer permitting process. The team identified 5 areas needing improvement using the seven-step process improvement process. The most important finding was that the workload was too great given the current process at that time. The cross-divisional and stakeholder team developed a fast track process that put the majority of the responsibility and accountability on the PE certification instead of multiple review and inspections. The result was that processing time was reduced from 100 days to 35 days (65%) and workload of applications awaiting review was reduced from an average of 120 to 40 (67%). The overall improvement in efficiency has been estimated to be 85%.

15. One Stop Permit Assistance New Service Design Team

The complexity of determining the number of permits among multiple offices required DENR to consider how their customers can be better served. The One Stop New Service Design Team was chartered to develop a better means of assisting permit applicants during the permitting process. The cross-divisional Team developed the One Stop Permit Assistance Service. Use of Coordinators is encouraged for projects that require: several permits, use innovative technologies, or have significant public interest. The goal of the program is to clearly identify potential environmental permits in the early stage of project development and to work with the customer and permitting agencies to ensure that requirements are met and addressed in a timely manner. The service provides a single entry point for business and citizens to identify state and federal environmental requirements that may apply to a proposed project. A permit coordinator is available at selected Regional Offices to guide the applicant or other interested party through the regulatory process. The Coordinator acts as a personal banker or project manager to assess the customer's needs, develop a project plan, identify relevant permits and prepare an integrated permit decision timeline. Use of Coordinators is encouraged for projects that require: several permits, use innovative technologies, or have significant public interest.

16. Composting Process Improvement Team

Composting of some waste, depending on volume and nature of the waste, requires a permit from either the Division of Waste Management or the Division of Water Quality. The lines of responsibility as to which issues a composting permit is not clearly defined and some customers are confused. This cross-divisional Composting Team has been chartered to improve the composting permitting process using either shared or a single point of responsibility, eliminate duplication, and improve methods to ensure applicant understanding of the process and the specific information required when applying for a permit. The team is defining finite criteria as to which division will permit based on the physical activities at a given site. This will eliminate duplication and process steps making the process more effective and efficient.

17. DENR/DOT Interdepartmental Permit and Mitigation Process Improvement Team

A cross-departmental Team (DENR/DOT) is being chartered to better integrate environmental permitting and planning into the Transportation Planning process. Specifically, a team of Senior Management, supported by a team of transportation planners and environmental permitting personnel, are using process improvement methods to integrate environmental issues into the transportation planning process at the earliest possible time. The Teams' mission is to optimize transportation planning while maintaining environmental stewardship.

18. On-Site Waste Water Permit Process Improvement

The On-Site Waste Water Permit Process Improvement Team was chartered to evaluate the need for dual agency review and improve the permitting process to eliminate duplication, enhance coordinated application processing, minimize process delays. The On-Site wastewater Process Improvement Team used a Seven-Step Process. The Team identified efficiencies that resulted in a reduction of 50% of the process steps and eliminated dual agency review. The changes also reduced costs associated with processing the permits by in a minimum of \$8,100.

19. DENR External Communication Process Improvement Team

The External Communications Process Improvement Team evaluated the current communications processes involving communication with the public. The Team developed a concept plan for effective external communications. The focus of the concept is to maximize communications with the public and media. The team also developed a communications training module presented by Public Affairs to staff members and managers. Finally, the Department is stressing early use of public meetings and forums to communicate actions and decision-making processes at the earliest point in a decision or approval process. Most importantly, the Department has adopted the recommendation of formal follow-up to the public of all issues and questions posed during public forums.

20. DENR Internal Communication Process Improvement Team

The DENR Internal Communications Process Improvement Team was chartered to improve the effectiveness of internal organizational and individual communications in DENR. The principle focus of the Team was on information flow within DENR. The Team made recommendations (which were adopted) to formally conduct information planning. The information planning included systemically integrating communications methods such as Email, World Wide Web, Mail, and meetings and to use multi-tiered communications to communicate changes in policy/procedures and priorities. Finally, the Team developed an annual communications assessment to measure the effectiveness of the organization's communications.

21. DENR Employee Recognition Team

The Employee Recognition Team was chartered to develop a formal method to recognize employee achievement and contributions to DENR. The Team developed a comprehensive program and awards to recognize individuals, groups, and organizations for achievement. The Teams recommendations were accepted and a policy was developed and the program was instituted. Formal nominations are now developed, as well as awards being presented on the spot, by both managers and co-workers. Further, the program includes an annual recognition event where all employees are thanked for their contributions and specific formal awards are given to employees, Teams, and Divisions.

22. Archdale Building Beautification Team

The Archdale Building Beautification Team was chartered to update DENR's major building and floors. The team developed and implemented a renovation plan that improved the appearance of the building to visitors and made it easier to navigate the buildings floors. The plan improved the working conditions for employees and contributed to employee morale and productivity.

23. Parker – Lincoln Management Process Improvement Team

The Parker – Lincoln Management Process Improvement Team was chartered to develop a management system for a building housing multiple Departments (DENR, Commerce, Health and Human Services). The Team was also chartered to improve the security of the building and established a reception area. The team solved the problem of no single management agency by developing a Building Management Board composed of representatives of the tenant organizations. This team serves as a management body supporting all tenants.

24. Human Resources Development Process Improvement Team (HRD)

The HRD Team was chartered to conduct process improvement of the departments Human Resource Development processes. The Team identified and defined core competencies for the department's employees and managers that are critical to mission accomplishment. The Team will use the competencies to develop priorities for training that complement increasing the critical skills the department needs to optimize mission accomplishment and the complex requirements of environmental management. The Team is also designing a formal career development system that integrates personnel management, career progression, rewards, evaluation, and development to transition the department's personnel management into a measurable performance based system.

25. Employee Satisfaction Survey Design Team

The Employee Satisfaction Survey Design Team was chartered to design a comprehensive survey that measured DENR Employee Satisfaction. The Team designed a statistically valid survey that provided a systemic measure of department employ satisfaction. The survey was taken by 65% of the employees and the results allowed management to develop an action plan that addressed such issues as cross organizational communication, career development/compensation, management capabilities, and process improvement. The survey was integrated into Human Resources and will be used annually to address improvement of employee satisfaction and to identify trends impacting on retention and mission accomplishment.

26. Managers Forum Steering Team

The Managers Forum is an on-going department sponsored self directed Team of managers focusing on development of DENR management and leadership skills. The Team's purpose is to create a forum of that offers continuing opportunities to managers to interact through informal discussion groups and/or seminars in order to improve managerial skills, their workplace, and the department. The Team has presented three forums focusing on topics of interest or concern to the managers of DENR. Further, the forum has produced several products to be used by managers. The Managers Thirty Day Checklist provides new managers with the key actions needing to be done in the first thirty-days of becoming a manager. The Team has also produced a Resource Guide that tells a manager the suggested things they need to know and do in order to be a successful manager in DENR. The Guide also provides a directory of functional experts that can assist or coach them in the activities discussed. The forum has also developed a Web page that can be used by managers that contain relevant reference information on management.

27. Employee Development System Process Action Team(EDS)

The EDS was chartered to assess the needs of employees and determine methods to improve morale, performance, and recognition through incentive awards. The Team benchmarked other agencies and the and the private sector to determine program successes and methods that would be applicable to DENR. The Team also conducted extensive focus groups of representative employee segments (i.e., Professional/Supervisory, Professional/Non-Supervisory, Technicians, Administrative, Service/Laborers, and Enforcement/Regulatory). The results of the assessment indicated a need to develop individual, group, team, and organizational recognition awards at all levels of the department. Most importantly, the team determined the need for the department a (and state) to develop a true performance based pay and evaluation system. Finally, the team found that the department (and state) needed to institute more career progression and to provide more training that assists in that career progression. The findings of the team were submitted to the Senior Staff for action and implementation.

28. Facility Identifier Team (FITS)

The cross-divisional FITs is chartered to plan the development and implementation of a common facility identifier. The Team is designing a system and methodology to use this single facility identifier in all of DENR's programs (e.g., Water, Air, Waste, etc.) in order to develop an integrated data management and analysis system.

29. DENR WEB Improvement Team

The WEB Improvement Team is chartered to improve the effectiveness and efficiency of the DENR WEB Page System to ensure current WEB portal design guidelines meet the requirements of the public and internal users/designers of the WEB system. The team is also tasked with designing a web system that is easily navigable by all users. Finally, the Team is developing a set of guidelines for display and use of multimedia on the Web pages.

30. ITS Steering Team

The ITS Steering Team is chartered to oversee the systemic improvement and integration of the Department's various information technology systems and databases. The Team is formulating a vision for data management and a strategic plan to improve the effectiveness and efficiency of IT in supporting all aspects of DENR's mission. The Team is also chartered to develop systems that provide needed information to customers and management tools to measure the effectiveness and efficiency of DENR's mission accomplishments. The Team has developed the first of a series of on-line permitting application processes as well as a real time permit application progress tracking system in support of DENR's customers. The Team has also developed an automated permitting efficiency measuring system to aid management in trend analysis and process improvement decisions relating to permit effectiveness.

31. Electronic Desktop Management and Infrastructure Team (DMI)

The DMI Team was chartered by the ITS Steering Team to analyze and identify IT infrastructure and desktop issues and capabilities as part of developing a department IT Strategic Plan. The team is chartered to assess the current state of IT in the department from inventory to capabilities, continuity of systems and software, to level of support. The Team will identify issues needing attention and develop recommendations to deal with them and to meet the department's vision of its future state in normal operations and in emergencies.

32. DENR Sustainability Team (Green Team)

The Green Team was chartered to develop and implement a Department Sustainability Program that optimally model conservation in the consumption and use (reuse) of electricity, paper, utilities, plastic, lands, and automobiles in a way as to increase the state of the environment. The Team developed a comprehensive sustainability and recycling plan for the Department. The plan included a communication plan to create participation at the lowest level. The Team also produced a Department policy and developed a reporting system to measure savings and positive environmental impacts obtained from the program.

33. Regional Office Leasing Process Improvement Team

The Regional Leasing Process improvement Team was Chartered to integrate separate leasing processes into a single integrated process. The Team used the seven step process improvement and new service design methodologies to develop a process that integrates Department, Division, and Regional Office actions in leasing commercial space for the Department. The efforts of the Team reduced the total process time from 2 years to an average of 9 weeks.

34. Mail Distribution Process Action Team (MPACT)

The MPACT was chartered to improve the effectiveness of DENR's mail distribution center and mail delivery. The team assessed the current system and found opportunities to improve efficiency, save money, increase communications and understanding of the system, and increase mail security. The Team used a seven-step method combined with cost analysis to arrive at their conclusions. The work resulted in the use of vendors to support auxiliary functions (e.g., mass mailings and parcel post). Further, personal mail service was discontinued and mailing materials were standardized. Security procedures were improved. Courier routes were redesigned with some routes eliminated based on cost efficiency standards established by the Team saving the Department \$6,300 and 390 man hours. Finally, formal procedures and coordination was established with customers. The changes resulted in improved alignment of staff to workload as well as increase effectiveness and efficiency of mail delivery. The Team also assisted the State Mail Delivery Center to improve processes during its initial opening.

35. Geographical Information System New Service Design Team (GIS)

The GIS Team was chartered to develop and implement a department GIS Strategic Plan in support of DENR's Strategic Plan. The team was composed of representatives of both the natural resource and environmental programs, as well as stakeholders. The team evaluated GIS capacities as it existed and determined capacities needed to meet the department's future vision. The team identified IT technology needed and the organizational structure to optimally manage GIS. The team developed a strategic plan to integrate all GIS data so that both customers and program divisions can use its potential. Finally, the team developed a GIS policy delineating the use of GIS and the requirement that it be integrated into all planning.

36. Customer Service Process Improvement Team

The Customer Service Process Improvement Team was chartered to integrate customer service as a core process of all DENR operations. The Team developed Customer Principles that are to be followed by all levels of the department. The Team also developed a department policy that established minimum criteria for customer service, standards, training, and performance evaluation. Finally, the Team assisted HR in the development of a mandatory training curriculum that was instituted and has trained 35% of DENR's employees to date. Finally, the Team developed an implementation strategy to establish the requirements at all levels of the department.

37. Electronic Travel Planning and Processing Team

This team was chartered to develop an implementation framework/plan and procedures for piloting and implementing the North Carolina Electronic Travel and Planning Expense Reimbursement System within DENR. The DENR Automated Travel and Reimbursement Pilot Planning Team will develop an implementation and evaluation plan for the piloting of the system and implement the system within DENR. The team will use accepted project planning methods to develop both a pilot implementation plan and a model plan for implementation in the remaining seven Cabinet Departments of the State Government. As a minimum the plan will include timelines, oversight methods, and technical evaluation measures, system efficiency and effectiveness measures (e.g., cost savings, time savings, employee morale, etc.) for the system. The Team will develop a formal communications plan and training plan to support users and operators of the system once it is fielded. The Team developed an evaluation report and provided recommendations (to include procedures) to the State's project planning team by November 30, 2000. Upon finalization of decisions relating to the system the team will then consult with the other implementing Departments regarding the implementation methodology.

38. Temporary Employee Hiring Process Action Team

The Temporary Hiring Process Action Team was chartered to design a process for expeditiously hiring temporary employees. The Team defined the various types of temporary positions. They then created a policy and procedures, which outlined all organizational and supervisory personnel responsibilities for such hiring. The recommendations of the Team were accepted and the department permanently adopted the policy and procedures.

39. Accounts Payable Process Improvement Team

The accounts payable team was chartered by the Senior Staff to improve the accounts payable process by reducing payment cycle time and developing performance measures to gauge success. The team modified and decentralized the process to eliminate unneeded steps and process gaps. The team also developed process standards for logging invoices, approving payments, and a maximum 7 days to disburse payment after receipt of invoice.

Permit Reform Improvements

The Department of Environment and Natural Resources (DENR) has identified five core processes that are essential to its mission. One of the most important and also the most criticized is the process of issuing permits. DENR leadership determined that it was essential to improve this process and to make it more customer-friendly. DENR began to study the feasibility and benefits of improved permitting processes in 1995 and a succession of teams have studied the permit reform issue and made recommendations. The Permit Reform Implementation Team (PRIT) was the most comprehensive and it issued a final report in November 1999. Based on this report, DENR senior management developed an aggressive initiative to improve permitting processes and created a steering committee of senior division managers to monitor and shepherd the improvement efforts.

A permit improvement strategy has been developed to accomplish the following goals:

- Create the most efficient and effective permitting processes that protect the environment, natural resources and public health.
- Make permitting and environmental information available to staff, stakeholders and customers.
- Make optimal use of people, time and money.
- Use measurement to drive improvement in performance.

Key Permit Reform Initiatives

Cycle Time Reduction

- The authority to issue permits for the construction, modification or repair of low hazard potential category dams, for the approval to impound and for approval to grant application extensions has been delegated to the State Dam Safety Engineer. These delegations represent 54% of the total dam safety permits issued during the past year. The average review time for dam safety permit applications has dropped from 3-4 months to two months (33% reduction in cycle time).
- Land Resources has improved its Erosion and Sedimentation Control planning and permitting processes. Applications that appear adequate during a preliminary review are approved as part of a "fast track" permit process. The applicants are notified if problems are spotted during the preliminary application review process and given an opportunity to submit additional information before the final plan review. These efforts have resulted in process sediment control plan reviews averaging 20 days for new submittals and under 10 days for resubmits (33% less than the statutory cycle time and 50% reduction of past processing trends).

- Water Quality has developed a fast track permit for sewers, force mains, and pumping stations. The division accepts engineer seal certification of design and that the design will be followed in construction. This new method has reduced process approval time from an average of 45 days to an average of 6 days (87% reduction in cycle time).
- Coastal Management is conducting an initiative to improve major permit cycle time to an average of 75 days (50% faster than the statutory requirement). The Division of Coastal Management (DCM) is responsible for issuing development permits under the authority of the Coastal Area Management Act and State Dredge and Fill Law. The Major Permit review process involves coordination with 14 different state and federal review agencies. Over the past several years the average processing time has steadily increased, reaching a maximum average of 100 days in 1999. The number of permits issued with a target of 75 days was 25% in 1999.

DCM regulatory staff have refocused on improving permit turn around times. Efforts were made to improve coordination with the associated review agencies. For example, significant coordination improvements have been made between DCM and 2 critical review agencies (Division of Water Quality and Corps of Engineers), resulting in quicker coordination responses from these 2 agencies. Furthermore, DCM has developed additional applicant resources (checklists, procedures/guidance documents) that help applicants prepare better, more complete and accurate application packages. Electronic measures (spreadsheets, e-mails, digital photos) have been utilized to increase and improve the speed and accuracy of inter-agency correspondence.

These efforts have lead to a 17% improvement in processing times (100 days average in 1999 - 83 day average to date in 2000), as well as a 50% improvement in the percentage of projects issued within the 75 day target (25% in 1999, 52% in 2000).

- Following Hurricanes Dennis and Floyd in 1999, many citizens of coastal NC had severe damage (or total destruction) of homes, docks, piers, bulkheads, etc.. Many individuals wished to reconstruct such destroyed structures as quickly as possible. In many cases, such structures are critical to the well being and quality of life.

Normal permitting procedures under the Coastal Area Management Act (administered by the Division of Coastal Management) would require review periods as long as 3-4 months before redevelopment permits could be issued. Improvement: DCM recognized the need to allow for rapid authorizations for the replacement of storm damaged structures.

To facilitate such a goal, the Division drafted, and the Coastal Resources Commission approved at an emergency meeting, a general permit that would allow for authorizations to be issued for rebuilding such structures in as little as 1 day. Furthermore, DCM recognized the financial hardship that these storms put North Carolina residents in. To allow for some small financial relief, DCM and the CRC waived the normal \$50 processing fee.

The storm-rebuild general permit was utilized almost 1,000 times following the 1999 hurricanes. All of these permits were for projects that would either have normally required much longer review periods or more costly application fees., Implementation of this effort saved the citizens of the State almost \$50,000 due to waived permit application fees.

- In the past, Capacity Use Permits were applied for through the mail. The method increased application review time and also delayed approval if the application was not fully completed correctly. Water Resources has initiated the on-line Capacity Use Permitting (CUP) System. The system ensures accurate application information and speeds the application review process. The CUP system is designed to increase customer service and makes the application process as easy as possible. The on-line system provides the ability to access existing permit information to assist in applying for Permit Renewals or Amendments. Its GIS capability also allows to develop maps required as part of the permit process. The Online Help and Glossary assist the applicant in completing the application and reduces the need to contact Water Resources. Finally, E-mail notifications keep the applicant in close contact with the permitting division and speed the processing of the permit.
- DENR is evaluating permits to determine which permits can be grouped together as General Permits to increase customer service and processing times. For example, Coastal Management and Water Quality are developing an expanded General Certification for CAMA Permits. This General Certification would not require written concurrence from Water Quality during the review process to improve cycle time.
- Trend analysis of permit performance measures indicated that approximately 30% of permit applications being tracked were returned to the customer requesting more information which may lead to a delay in the process. The Permit Reform Steering Team is gathering data to define, understand, and improve this issue.
- A cross-divisional Team was chartered to improve and effectively integrate the environmental enforcement process with the strategic outcome of gaining maximum compliance to environmental policy and regulations. The Team developed 12 formal principles of enforcement that balance punitive measures with recognizing the recognizing activities beyond compliance and supportive of the outcome of environmental stewardship. The department adopted the Principles of Enforcement and measures were developed to validate the effectiveness of enforcement on influencing compliance. Finally, the Team is extending its work to develop a compliance system that integrates education, outreach, and technical assistance, and incentives into the current autonomous enforcement process to eliminate violations before they occur and deal with violations in a consistent manner based on a total compliance history.
- DENR and the NC Department of Transportation are currently developing a cross-departmental process improvement team to better integrate environmental protection with the transportation planning process. By developing an integrating environmental stewardship into road building plans it is expected that overall transportation planning could be reduced by years and effectively integrate environmental impact resolution into the concept development phases of the states transportation.

Duplication and Process Cost Reduction

- Water Quality is studying the overlap between state and Federal wetland permit requirements. The focus of this process improvement effort is to develop rules that integrate both levels of government requirements.
- Waste Management has charter a Critical Path Permit Evaluation Team. The Team is reviewing the Divisions major processes to determine the time requirements and the cost of the particular process. Once the time and cost are determined, the division will use the data to better distribute work loads, design training to increase competencies and reduce process costs, and identify means of improving processes by reducing resources requirements (people, time, and money).

Delegation of Approval Authority

- Water Quality is in the process of delegating 401 Certification Authority for National Permits to the five DENR Regional Offices. The new process will be tested in the Winston-Salem and Washington Regional Offices. The process will be delegated to the remaining Regions based on the results of the pilot.
- The Division of Land Resources Permit has delegated approval of transfers, bond substitutions, reclamation releases from the Director to the Mining Specialist. Further, extensive reviews and revisions of the mining permit application forms and permit review process have been made using a team of permitting personnel and stakeholders. As a result of these improvements, the average review time for mining applications has dropped from 45 days to 36 days: a 20% decrease in processing time.
- Data analysis indicates that 30% of permit applications being tracked were returned to the customer requesting more information and contributes to delays in the permit review process. The Permit Reform Steering Team is gathering data to define the gaps that inhibit adequate first time permits. The Team will then oversee revision applications to make them more understandable to the customer and increase the first time acceptance rate of permit applications.

Improved Information Exchange and Communication

Information exchange is necessary to provide and permit timely, accurate and comprehensive environmental management to allow tracking and reporting of current and historical environmental activities to our customers. Methods of improving the exchange of information include:

- The Sediment Control Program conducts workshops to help customers developing sediment plan designs know the requirements and techniques to develop compete and accurate sediment control plan submittals.

- The DENR Customer Service Center (CSC) has developed an integrated web page that provides user-friendly access to information about environmental and natural resource programs. Permit process documentation, flowcharts, applications and fact sheets provided by the divisions will be made available on this site or through links to appropriate division web pages. The new CSC web site also focuses on the One Stop Permit system and a department wide application tracking system (ATS). Finally, the web page acts as a portal for permit applicants to track the progress of the review of their permit applications.
- An Automated Tracking System (ATS) has been introduced to allow customers to track the progress of environmental permit applications from the date of receipt to a permit decision. All environmental permits will be phased into the ATS as technology and technical support allows.
- A cross-divisional Facility Identifier Team is developing a common facility identifier and data standards, which will allow a single portal access to comprehensive integrated environmental information about any site located in the state.
- A cross-divisional Web Team is designing a more user friendly and comprehensive format for the DENR website.

Selected Divisional Successes

The following section highlights Organizational Excellence Successes that are occurring within our Divisions. In order to qualify as a success the improvement has achieved one or more of the following:

- Effectively reduced resource needs,
- Improved service and or satisfaction of the customer,
- Increased the quality of a product,
- Reduced process time,
- Saved money,
- Decreased staff involved, or staff time necessary to complete a project or process, and
- Reduced waste or saved natural resources.

Some of the Successes highlighted here involved small teams within divisions or sections. Some of the teams included DENR staff from other divisions, community representatives and stakeholders.

The successes have been organized into 5 groups:

- Process Improvement
- Community Partnerships
- Policy Improvement
- Customer Input and
- Sustainability

We are proud to recognize these efforts. Our front-line employees are implementing changes to achieve better, faster, smarter, and more cost effective approaches.

Financial Report Automation
Office of the Controller
Rod Davis, Director

Activity:
Financial Report Automation

Results:

- **Provides current information to customers**
- **Reduced printing and postage**
- **More efficient use of staff time**

Savings:

Annual overall estimate
\$259,504

Team members:

Rod Davis, Nancy Thomas,
Nancy Boyer, Julia Barnwell,
Sherril Harris, and Division
Fiscal Officers

Providing Divisions with timely and accurate financial reports had been a long-standing problem. Reports were printed by OTIS (formerly SIPS) and received in the controllers office each Monday morning. They were separated and mailed to the divisions by Tuesday afternoon. Depending on the speed of mail it could take up to a week before Divisions received the information and by this time it was already out of date.

Team members brainstormed ideas and determined that electronic exchange of information would improve the process. They reviewed software packages and determined that Systemware may meet their needs. At this point they surveyed customers to validate needs and determine if the Systemware would satisfy internal needs and their customer's requirements. The team then identified that Systemware would be the best package to use, but that fiscal officers would need training. The team developed a training program and support system. After initial implementation the team asked customers for suggestions for improvements to the new process. It was determined that although information was now accessible, it was not easy to separate and print only the information that a particular division needed. The reports were then redesigned and indexed which allows for an easy search and print of information pertaining to each division. The team plans to regularly ask customers for feedback on the new process in order to continually improve.

Results: Reports are now updated after each batch of check writing (3 times a week) and provided to Divisions immediately. This ensures that Divisions always have current information. Indexing also allows division personnel to pull up only their reports, and assures them of having information on all their funds together.

Cost savings: Saves the divisions approximately \$250,000. in printing and \$377. in postage. The Office of Controllers has reduced staff time by 2 person/days each week in sorting and distributing reports. Total cost savings to the department: \$259,504. New Systemware software provided by the Office of the State Controller.

For more information call Nancy Thomas, (919) 733-4166

Contract Review

Division of Purchase and Service

Laird Davison, Director

Activity:

Contract Tracking Process Improvement

Results:

- **Reduced expired contracts by over 10%**
- **Reduced rework activities**
- **Improved customer service**

Savings:

Estimated at \$2,112

Team Members: Michael G.

Bryant, Kelly Belvin, Ray Boylston, Linda Carson, Rod Davis, Laird Davison, Lloyd Inman, Don Liles Kris Michaloski, The late Shannon Rhodes, Jaye Poole, Kathy Norris, Traci Rains, Jane Smith, Mark Steelman, Kent Wiggins

The Department identified a significant problem with certain contract administration activities, specifically contracts that inadvertently were allowed to expire, while work by the contractor had not been completed. Work by the contractor continued to be authorized while, technically, the Department no longer had a valid, binding legal agreement since the contract expiration date had passed without a request to amend the contract being generated by the using division. Purchase and Services convened a team including internal staff, customer vendors, the Department's Office of General Counsel and on occasion, our oversight agency, the Department of Administration, Division of Purchase and Contract. The team formed a consensus that DENR had a need to improve formal contract tracking capabilities. The failure to amend contracts within acceptable timeframes had created legal, ethical and business process issues for all stakeholders.

The team developed an automated, electronic contract tracking system with an implementation date of January 2000. This new system allows Division of Purchase and Service Staff to send notice of contract expiration data to respective Division Contract Coordinators via an e-mail "reminder" at intervals of 90, 60 and 30 days. This process permits informed decision making regarding contract status prior to contract expiration.

This new process has had many benefits. Prior to the change the error rate was up to 15% for lapsed contracts. Annual contract volume during FY 99/00 for all types of contracts totaled 547

contracts with a combined dollar volume of \$78,988,731. Currently, the error rate is less than 3%. This is a positive reduction of at least 10%! The new process also greatly reduces the amount of rework as a result of an expired contract. In FY 99/00 16 contracts required rework. Administrative duties, communication, and rework on each contract cost an estimated \$132 per contract, for a total of \$2,112! Improvements also include improved understanding of roles of Contract Administrator and Contract Coordinator, increased customer satisfaction through reducing communication errors. The Division of Purchase and Services can provide greater detail on contractual activities, at both the Department and Division level, and is now able to provide a detailed data analysis on a host of issues and focus on training opportunities with customers regarding contract administration.

For more information contact Michael G. Bryant, (919) 715-3891



Progress and Scope

Divisional Success, Process Improvement

Reorganization
Office of the Controller
Rod Davis, Director

Activity:
Reorganization of the Office
of the Controller

Results:

- **No reportable audit findings in 3 years**
- **Invoices entered within 10 working days**
- **Employees reimbursed for travel within 10 working days**

Savings:

Negotiated paybacks reduced by more than \$4.75 million in refunds to federal agencies

Team members:

Bryan Brannon, Rod Davis, Dan Steward, Nancy Thomas, Rex Whaley, Dianne White, Bud Jennings, Dan Steward, Jimmy Benson

DENR did not have qualified staff to appropriately manage the Department's financial operations. This resulted in a lack of credibility with state oversight agencies (OSC, OSBM, the General Assembly) and federal agencies, and also resulted in numerous severe audit findings. Several federal agencies had cut off funding to the department. Some federal agencies were also demanding a refund of over \$4.77 million. Our vendors were refusing to service the Department due to non-payment or constant late payments. There were over 9,000 outstanding invoices. Many DENR employees were refusing to travel because they were not being reimbursed in a timely manner- in some cases it would take 4 or 5 months to be reimbursed. Financial statements contained numerous material errors and were not being submitted in accordance with General Statutes.

Team members examined core processes and competencies needed for an efficient and effective Office of the Controller and recommended that the entire office be reorganized. Positions were appropriately described and reclassified and qualified staff were recruited and hired. Financial records dating back to FY 1989-90 were researched and corrected. Based on the corrected financial statements and required federal reports, the Office of the Controller worked closely with Federal Agencies and the Federal Inspector General's Office to negotiate a reduction of paybacks. A training program for divisional financial staff was also developed and implemented. All processes were examined and expected turnaround times were established along with improving the accounts payable process.

Results: Paybacks to federal agencies were negotiated from \$4.77 million to \$22 thousand. There have been no reportable audit findings for the last three years. At this time there are no outstanding invoices. With the new process invoices are now entered within 10 working days. DENR employees are reimbursed for travel within 10 working days. The credibility of the Department has been restored. The Office of State Controller, Office of State Budget and Management, the General Assembly and federal agencies now have trust in the financial management of the Department.

For more information contact Rod Davis, (919) 733-1712



Automated Time Keeping

Office of the Controller

Rod Davis, Director

**Activity:
Development and
Implementation of Web-
Based Timekeeping System**

Results:

- **Decreased processing time by 60 days**
- **Eliminated human calculation errors**
- **Eliminated over 122,400 sheets of paper per/year**

Savings:

**Paper- approximately
\$1,224/year**

**Team members: Rod Davis,
Mike Strawn, Nina Weldon,
Richard Marshall, and
Division Personnel
Representatives**

Employee time keeping was a manual process, which was very labor intensive. Federal grant regulations require that the cost of employee time be submitted within a specified time period. These regulations could not be met due to the volume of calculations and the numerous errors with manual entry which resulted in further correction delays. The manual time sheets were submitted monthly in triplicate.

The team recommended that a web-based time keeping system may be the best option for employee time-keeping. This would eliminate the need for manual calculation and reduce the amount of paper used by over 122,400 sheets per year. The time-keeping system was developed and piloted in several divisions for 3 months. Input and comments were gathered from the pilots and improvements to the system were made based on the input.

Results: The length of time required to record an employees time and allocate the costs to federal grants was reduced from an excess of 90 days to less than 30 days. There has been a reduction in staff time, but unfortunately data was not kept for comparison. The new system not only saves time and paper, we are now able to complete federal financial status reports for grants within the required time frames. Human calculation errors have been eliminated. Employees have commented that the find the new system much easier to use.

For more information contact Nina Weldon, (919) 733-1712

Project Status Database Improvement**Division of Environmental Health, Public Water Supply Section****Linda Sewall, Director**

On October 1, 1999 new and revised rules went into effect that significantly changed the process and requirements for obtaining approval to construct, alter, or expand public water systems that had been in place since 1977.

Activity:

Process and requirement change for obtaining approval to construct, alter, or expand public water systems.

Results:

- **New approval process**
- **Streamlined activities**
- **Efficient database management**
- **Reduced paperwork for customers**

Savings:

**First year estimated savings
\$74,000**

Team members:

**Siraj Chohan, Pansy Johnson,
Jamie McGuire, Robert
Midgette, Susan Moore, Wayne
Munden, David Stoner**

In addition to engineering plans and specifications, applicants are now required to develop a Water System Management Plan (WSMP); an Engineer's Report; an Operation and Maintenance Plan; an Emergency Management Plan; and an Applicants Certification. Along with issuing plans and specification approval the Public Water Supply (PWS) Section now issues letters acknowledging receipt of a WSMP; WSMP comment and approval letters; and Authorization to Construct letters and final approval letters.

With minimal new resources to implement the Capacity Development Program the PWS Section recognized the need to develop effective processes to produce and track the new documentation required for project approvals. Also, it was recognized that the current Project Status Database represented a significant opportunity for process improvement. Therefore a team including technical and administrative staff was assembled to evaluate the existing data system and the programmatic needs related to the implementation of the new Capacity Development Program, identify and evaluate alternatives, and propose and implement process revisions.

Process improvements include:

The Project Status Database originally designed to track the status of two types of applicants submittals and three types of public water supply correspondence was revised to track the status of five types of applicant submittals and eight types of correspondence.

The new approval process to ensure the technical, managerial, and financial capacity of proposed water supply projects requires the generation and issuance of up to eight types of correspondence for the more than 2,200 annual project submittals (i.e., up to 11,000 new pieces of correspondence per year). This new work load could not be supported by the existing PWS Section engineering and support staff resources without significant process changes. Utilizing the Project Tracking Database and word processing macros, the process improvement team identified and implemented methods to automatically generate four of the required types of correspondence with a single keystroke. These represent approximately 90 % of the new pieces of correspondence. The revised rules allow an applicant to submit one WSMP or one Engineer's report to cover multiple construction projects. Therefore the revised Project Tracking Database was developed to allow WSMPs and Engineer's Reports to be linked to multiple projects. This allows for efficient database management and tracking of project status.

All of the new Capacity Development Program requirements were implemented with the addition of only one new engineering position and no new administrative support positions. Without the process improvements it is estimated that at least two new support positions would have been required at an estimated annual cost of \$80,000. The cost to convene the process improvement team and to develop and implement the process improvements was estimated to be \$6,000.

For more information, call Robert Midgette (919) 715-3224

Cape Fear River Basin Hydrologic Model Stakeholders

Division of Water Resources

John Morris, Director

Activity:

Development of hydrologic computer simulation model

Results:

- **Reduced paper, time, re-work and travel expense**
- **Developed an acceptable product**
- **Created new tool**

Savings: Doing the job right the first time ensures that the model development cost of \$261,385 is not lost or wasted

Team Members:

Divisions of Water Resources and Water Quality, Cape Fear River Assembly, Towns of Cary, Apex and Morrisville, US Army Corps of Engineers, Mid Carolina Council of Governments, Triangle J Council of Governments, City of Durham, Orange Water and Sewer Authority, Fayetteville Public Works Commission, Piedmont Triad Regional Water Authority, City of Greensboro, Lower Cape Fear Water and Sewer Authority, Danish Hydraulic Institute, and Moffatt and Nichol Engineers

Over a quarter of the states population depends on the Cape Fear River Basin for water supply, wastewater assimilation, power generation, navigation, recreation, and other purposes. Prior to 1999 December, there was no tool available to assess the basin-wide impacts of existing and future uses of this resource. The N.C. Division of Water Resources (DWR) and other stakeholders in the Cape Fear River Basin, were interested in constructing a hydrologic computer simulation model of the entire Cape Fear River Basin. The model was also needed to assist with the Jordan Lake water supply allocation process, inter-basin transfer certifications, and to enhance future water resource decision-making. The challenge was to develop a model accepted by ALL key parties as the primary tool in evaluating current and future uses of the surface waters of the Cape Fear River Basin. Since this model is to be used as a primary decision-making and analytical tool, it was developed in an open, cooperative manner and subjected to scrutiny by all interested parties. The model can also be widely distributed and used to develop consensus among the numerous stakeholders in the basin

A Stakeholder Group of representatives from several parts of the basin, Division of Water Resources and consultants Moffatt and Nichol Engineers and Danish Hydraulic Institute teamed together to develop a 'widely accepted model'. All members of the stakeholder group were informed of technical milestones, and all aspects of the model were developed openly. All parties were urged to provide comments on any aspect of the project through a public email 'list serve' system that was also used to address the comments.

The stakeholder email and meeting process allowed for less room for error in model development. The Email List Serve - reduced paper usage, time usage, rework and travel expense by approximately 50% and prevented developing a product that was not accepted by the public. The entire cost of the project \$261,385 would have been lost as a result of an unacceptable tool.

The group created a new tool that is currently being used by all members of team in the 'Jordan Lake Allocation Process'. Customer Satisfaction: All members of the stakeholder group and the public at large have been very pleased with the final product.

For more information contact Sheila Thomas-Ambat (919) 715-0388 or Tom Fransen (919) 715-0381.

Applicant Tracking System
North Carolina Zoological Park
David Jones, Director

Activity:
**Applicant Tracking Process
Improvement**

Results:

- **Reduced processing time
for checking
applications, generating
reports and mailing
back response letters**

Savings:

Estimated \$4,160 per year

The Zoo processes hundreds of applications for thirty or more different job listings per year. This volume created a problem in tracking each individual application for the reviewer as well as the applicant. Human Resources (HR) staff literally had to look through stacks of applications to locate the one or ones desired. HR needed an applicant tracking system.

The Zoo HR staff with the assistance of the Computer Network Manager developed a computerized applicant tracking system. When an application is received, the pertinent information such as name, job desired, date of receipt, demographics and EEO are entered into the tracking system. The system can call up the status of an application, generate a report containing all applicants for a specific position, provide the demographic and EEO information for the recommendation package and prepare the response letter once an candidate has been hired.

The system reduces the processing time for checking the status of an application from 3-5 minutes to 10 seconds. It also reduces the processing time for generating the report of all applicants for a specific position and pertinent information for the reviewer and for the recommendation package from 2-4 hours to 10-30 minutes. The system also reduces the processing time for response letter from 7 minutes per letter to 1 minute per letter.

The system saves a tremendous amount of processing time that is redirected to other HR tasks. A rough estimate would be 416 hours per year @ \$10 per hour or approximately \$4,160 per year.

HR staff is able to use time more wisely by spending significantly less time finding the status of applications, putting together all the applications for a specific position, providing the demographic information for recommendation packages, and preparing "No Get" letters. The satisfaction of the applicant and the hiring supervisor has increased significantly as a result of faster service.

For more information contact Cami Bunting, (336) 879-7313

Community Service Work Program

Division of Marine Fisheries

Preston Pate, Director

Activity:

**Partnership with Carteret
County's Community
Service Work Program**

Results:

- **Reduced backlog**
- **Provides time for preventative maintenance and emergency response**
- **Customer needs met in a more timely fashion**
- **Provides CSWP clients with opportunity to develop new skills**

Savings: Estimated annual savings of \$19,047

Team Members:

Anthony Nelson, Ronnie Norris, Jim Fuller, Robert Geiges

Maintenance Services is a small section within the Division of Marine Fisheries (DMF). It is made up of seven employees, two of which are general utility workers and one maintenance mechanic. These three employees are responsible for the grounds and the maintenance of four permanent buildings and three trailers totaling over 40,000 square feet. The Division has experienced a great deal of growth and an increased number of Repair and Renovation projects that have caused a dramatic increase in the workload for maintenance staff. In order to maintain maintenance standards and provide timely service, additional staff became necessary but funding of more positions was impossible to obtain.

After discussing the problem, the team recommended obtaining Community Service Workers through Carteret County's Community Service Work Program (CSWP). A partnership was formed with CSWP and DMF in which clients of CSWP are offered the opportunity to provide DMF with community service hours at no cost to the division. Community Service Workers are interviewed and assigned work based on their abilities.

Results: The Maintenance section has received assistance with janitorial duties and grounds maintenance work. Along with the Maintenance Section, License, Trip Tickets, and Habitat Sections have also used these workers for such tasks as filing, updating workbooks, assisting with mailings, and staffing reception areas. In the past three years, an average of 1,800 hours of work per year have been donated to the Division of Marine Fisheries via this program. These hours represent .87% of an FTE. Assuming a rate of pay received by a general utility worker, this would constitute a

savings of \$19,047 per year! This figure takes into account costs to the division such as benefits, social security, etc. Staff now has more time to respond to emergencies such as water leaks and perform preventive maintenance on equipment and buildings. Customer needs are being met in a timely fashion while keeping up with other routine functions. We have been able to reduce a backlog of work and attend to a greater array of tasks. Community Service Workers benefit by being able to continue with school, their jobs, and avoid marring their permanent records in the majority of cases. They work in a favorable environment and are treated with respect. Many times they also develop new marketable skills with direction from the DMF staff.

For more information contact Anthony Nelson, (252) 726-7021

**Natural Heritage Inventory
North Carolina Zoological Park
David Jones, Director**

Activity:

**Partnering with the Piedmont
Land Conservancy to identify
Natural Heritage Sites**

Results:

- **Inventory completed**
- **Established Natural Heritage committee**
- **Acquired 180 Acres at Ridge Mountain**
- **Added 180 Acres to Governor's Million Acre Program**
- **Proposed special protective guidelines for development of natural heritage sites**

Savings:

Team Members:

**Mary Joan Pugh, Virginia
Wall, Kathy Treanor- Piedmont
Land Conservancy**

Natural heritage sites in Randolph County had not been identified and were threatened by the increased rate of development in the County.

The Zoo and the PLC worked in partnership with the NC Natural Heritage Program to produce and implement a Natural Heritage Inventory for Randolph County. In 1997, the Zoo and PLC raised the matching funds for the Inventory. The Zoo worked with the PLC biologist in locating the tracts to be inventoried, obtaining landowner permission, and generating GIS information. The Inventory was completed in 1999 and the results were presented to the Randolph County Board of Commissioners who set up a special Heritage Task Force to recommend ways to protect the 51 natural heritage sites. The Task Force report was presented in September 2000 and the County Board set up a standing Heritage Committee to evaluate the sites, distribute the "tool box" of protection measures to professional working with landowners, explore a County Recreation Plan to use heritage sites in passive recreation uses and explore a County Historic Preservation Commission to protect historic sites. In addition, the Zoo and the PLC worked together to obtain a Natural Heritage Trust grant to acquire two tracts totaling 180 acres at Ridges Mountain, identified in the Inventory as a site of regional significance. As an outgrowth of the Heritage Task Force, the natural heritage sites have been designated conservation areas in the proposed County Growth Management Plan.

As a result, a Natural Heritage Inventory of Randolph County has been completed. Randolph County has established a Heritage Committee to work with willing landowners to protect the County's 51 natural heritage sites. Ridge's Mountain, identified in the Inventory as a site of regional significance has been acquired with Natural Heritage Trust funds. 180 acres were added to the Governor's Million-Acre Program, and inclusion of the natural heritage sites in the proposed County Growth Management Plan as conservation areas with special protective guidelines for development.

Recycling Business Loan Fund

Division of Pollution Prevention and Environmental Assistance

Gary Hunt, Director

Activity:

Establishment of a Recycling Business Loan Fund

Results:

- **4 businesses helped**
- **22 jobs created**
- **Strengthened State recycling infrastructure**

Savings:

Team Members:

Matt Ewadinger, Scott Mouw, Jane Smith, Michael Bryant, Rod Davis, Self-Help staff members Robert Schall and Fred Broadwell, and Pam Swingle with US EPA

Recycling businesses are a critical part of the burgeoning sustainable development movement in North Carolina. One of the most significant barriers to growth for new and expanding recycling enterprises is access to capital.

After analyzing recycling loan funds that have been established in other states, the team concluded that major concerns included: insufficient capitalization at inception, a reliable and continuing funding source, and funding cycles within state government versus the turnaround time needed to facilitate project development in the private sector. The team recommended that a Recycling Business Loan Fund should be established and housed in an existing development lending institution and that operational self-reliance is a necessary program goal.

The Department of Environment and Natural Resources entered into a contract agreement with Self-Help, North Carolina's community development lender, to establish the Recycling Business Loan Fund. The project, administered by Self-Help, nurtures fledgling businesses until they become bankable and graduate to full-service private sector financing and solidifies the bond between North Carolina's environmental and economic development communities through job creation and capital formation, as well as providing markets for recyclable materials. A partnership was formed to provide a funding source for the project that includes: \$139,671 from US EPA, \$250,000 from the Solid Waste Management Trust Fund,

and \$525,525 from Self-Help. This initiative not only assists recycling firms in overcoming obstacles to obtain financing, but also leverages private foundation funds and is not dependent upon on-going public subsidies. This one-time infusion of critical seed money will ultimately result in the establishment of a self-sustaining lending program at Self-Help.

Self-Help has closed on \$253,300 worth of loans to recycling companies and an additional \$230,310 in funds have been leveraged on those projects, representing a total loan investment in the recycling industry of \$483,610. DENR has reimbursed Self-Help \$34,247 as its payment share. Therefore, DENR saved \$219,053 of the \$253,300 loan investment that would have been required had the Recycling Business Loan Fund been established within DENR! The establishment of the Recycling Business Loan Fund within an existing community development lender (Self-Help) has allowed DENR's Recycling Business Assistance Center (RBAC) to function exclusively as a technical service provider to recycling businesses, the economic development community and Self-Help and RBAC has been able to provide demonstration grants to recycling businesses with monies that would not have been available had the funding been allocated to establish an internal loan fund. A client of this project has commented "RBAC has helped me with all aspects of my business through financing, market information, and recycling business training and consulting".

For more information contact Matt Ewadinger, (919) 715-6504

**Activity:
Service Improvement through
Partnership**

Results:

- **9000 technical service hours**
- **Over 13 millions pounds of waste diverted**
- **Over 1.87 million kWh/yr**
- **Reduced water use by 90 million gallons/year**

Savings:

**Net annual public and private
cost savings of \$734,300**

Team Members:

**Terry Albrecht, Gary Hunt,
Sharon Johnson, Scott Mouw and
LOSRC team members- Jim
Stokoe, Elizabeth Teague, Bob
Sheperd, and Don Hollister**

The Division of Pollution Prevention and Environmental Assistance (DPPEA) identified the need to increase pollution prevention technical assistance to customers in Western North Carolina (WNC). The Division of Pollution Prevention provides businesses and public entities assistance on methods to improve environmental performance through pollution prevention techniques and by maximizing operational efficiencies. In the fall of 1998, DPPEA had one field employee in Asheville to serve all of the potential customers in WNC. The Asheville staff person formed a relationship with a unique volunteer technical assistance program operated by the Land-of-Sky Regional Council (LOSRC). This volunteer program was also providing limited waste reduction assistance to businesses in WNC, but identified through a team visioning process that to improve its operations additional leadership and program development resources were needed.

Together the DPPEA Management Team and the LOSRC Vision Team drafted a recommendation for DPPEA to provide a Program Director for the volunteer program that would combine and enhance technical assistance efforts for customers in WNC. A formal partnership was signed between the DPPEA and the Land-of-Sky Regional Council in Spring of 1999 creating the Waste Reduction Partners (WRP).

The partnership has enabled one full-time employee in DPPEA to leverage the technical assistance resources of 35 highly experienced engineers and scientists. The DPPEA has been able to expand its technical assistance efforts to address acute environmental issue facing WNC including air quality, drought, and solid waste disposal issues. Expanded waste reduction services provided by the newly named Waste Reduction Partners include solid waste reduction, water efficiency audits, energy efficiency assessments, environmental sustainability assistance, alternative fuel vehicle awareness, and market development for recycled products.

In FY 2000, 9000 technical assistance hours were provided by the Waste Reduction Partners. This represents nearly a five-fold increase in service to WNC customers. As a result, over 13,006,000 pounds of solid waste were diverted from landfills and businesses realized energy efficiency reductions of over 1.87 million kWh/yr (Equivalent to removing air pollution from 227 automobiles in WNC). During the 1999 WNC drought, WRP helped business reduce water use by 90 million gallons per year. Net annual cost savings to DENR-DPPEA in FY2000 are estimated at \$181,500 (as compared to providing equivalent service with internal DENR employees). Estimated cost savings to WNC customers in FY 2000 is \$552,800/year. Thus, a net public and private cost saving total for the initiative is \$734,300/yr in FY2000.

For more information contact Terry Albrecht (828) 251-6622.

Conservation Captains
North Carolina Zoological Park
David Jones, Director

Activity: Policy and procedure changes

Results:

- **Reduced copying by 110,000/year**
- **Eliminated 78,000 copies of invoices**
- **Eliminated 24,000 paper copies of press releases**
- **Recycled content procurement**
- **Bulk purchases**

Savings:
Estimated annual savings
\$9,975

The Zoo generates literally tons of waste products a year. In addition to waste reduction efforts in water conservation, energy reduction, recycling and composting, the Zoo looked at office setting processes and through the Conservation Captain adopted several policy and procedures to further reduce waste.

Policy Changes include:

- The Zoo has cut down on paper by making two-sided copies, using email, and reducing margins to fit more text on a page. The Zoo has cut its copying by 110,000 copies per year.
- The Zoo keys its invoices for payment instead of making copies and sending hundreds of them a week to DENR for keying, and it keys purchase order requests. Keying invoices alone saves 78,000 copies per year.
- The Zoo sends media releases via email instead of fax, saving 24,000 sheets of paper per year.
- Items such as cleaners, drugs, and electrolyte drinks are purchased in bulk to reduce numbers of containers.
- The Zoo buys goods made from recycled materials whenever possible. It purchases recycled paper including copy paper, toilet paper and paper towels. It furnished a picnic area with tables made out of recycled plastic, used recycled plastic decking in the recently renovated Aviary, and purchased recycling containers made out of recycled plastic.

Copier savings were 110,000 copies and \$2750. Keying invoices directly saved 78,000 copies, \$2,000 in copies, \$325 in paper, \$1,000 in postage, and \$3,800 in labor for a total of \$7,125. Emailing news releases saved \$100 in paper costs per year. The other savings such as buying bulk are more difficult to calculate.

As a conservation organization it is important that the Zoo practice what it preaches and walk the talk. Policies and procedures that reduce waste generation are ways to achieve this objective.

For more information contact Mary Joan Pugh, (336) 879-7110

Customer Advocacy
North Carolina Zoological Park
David Jones, Director

Activity: Customer Input

Results:
Increased Ratings

Savings: N/A

The Zoo's main customer is the Zoo visitor. The Zoo wants to make sure it is meeting the needs and expectations of the visitor but no mechanism was readily available to involve visitors in the design and function of Zoo operations.

The Zoo hired a customer service trainer to provide training to all Zoo staff. He recommended a Customer Advocacy Team composed of members from each of the ten sections at the Zoo to look for ways to improve the visitor experience. The CAT meets monthly and has conducted visitor surveys each year to obtain input from visitors. As a result of the surveys, shade structures have been built

at most of the tram stops and water misters have been provided along walkways.

The overall ratings on the visitor surveys have increased by 1 point on a 10-point scale. Customer satisfaction has improved as evidenced by the increase in the overall ratings on the visitor surveys.

For more information contact John Maquire (336) 879-7303



State Solid Waste Management Planning
Division of Waste Management
Bill Meyers, Director

Activity:
Implementation of new public participation process model

Results:

- **Increased public participation**
- **Stakeholder understanding and support of the plan**
- **Reduced re-writing**
- **More efficient education**

Savings: Not able to calculate

Team Members:

Paul Crissman, Rebecca Gagliardi, Cheryl Hannah, Dexter Matthews, Scott Mouw, Phil Prete

The Division of Waste Management is required to have a 10 year Solid Waste Management Comprehensive Plan. The Existing Plan expires in 2001.

The Division is committed to public participation but had encountered little success in recent years in receiving meaningful participation from stakeholders or generating interest in solid waste issues except in very localized cases in direct response to a landfill permit issue.

In order to develop a new state Solid Waste Management Plan, and obtain public participation input and support of the plan, a new process model for planning was needed.

The team evaluated the standard method of developing a plan, then holding public meetings to gather input, and making changes based on input. This old process was very time consuming and did not result in much buy-in or understanding of the final plan. Given this the Team designed a "bottom up" planning process that educated stakeholders and the public up front and asked for their input and ideas. The new process begins with identifying communities, segments of the population, interest groups, and others with an interest in solid waste issues. The team then facilitated interaction

with those outside DENR to evaluation existing programs and policies and procedures as well as developing recommendations for the new plan. Next, an open ended survey form and a series of structured forums were developed and used to encourage participation. The forums were the key element in establishing participation. Selected organizations and groups were approached regarding their hosting a forum and the identified customers and stakeholders were invited to a local forum. These forums followed a structure designed to solicit group participation.

The Division participated in 20 forums across the state and gathered input and ideas from approximately 300 people. Although this new process is time consuming up front, savings are achieved by getting strong public participation early in the process and eliminating the need to "catch up" those persons and groups who normally participate late in the process. This will also eliminate the need to rewrite the plan. The forums enabled the agency to develop an accepted draft state solid waste plan based on public participation. Also, this process allowed the Division to present and discuss new ideas and concepts with customers and stakeholders. The DWM received strong statements of support regarding the new process and is confident that this will help with future communication on other issues regarding solid waste.

For more information contact Paul Crissman, (919) 715-0692 x254

Conservation Captains
North Carolina Zoological Park
David Jones, Director

**Activity:
Waste Reudction**

Results:

- **340,000 gallons water saved/year**
- **336,000 kWh per/year**
- **1,000 annual automobile miles**
- **176,800 pounds diverted from landfill**
- **1569 tons composted**

**Savings:
\$103,620**

The Zoo generates literally tons of waste products a year and pays to have them hauled away to the landfill. In addition, the Zoo uses large amount of electricity and water to operate life support systems for the animal and plant collections as well as visitor services.

In 1994 conservation efforts were renewed with the formation of the Conservation Captains. This is a group of employees representing all levels, locations, and work units at the Zoo, who identify, evaluate, and recommend conservation-minded ways to reduce, reuse, and recycle materials used at the Zoo. Each year the group develops a work plan and uses committees and monthly meetings to accomplish its goals.

The Zoo uses 62 million gallons of water a year for exhibit tanks, irrigation, and cleaning animal areas. A water use study was conducted by installing water meters at all the exhibits with large water usage. As the result, the use of high pressure/ low volume nozzles and dry versus full cleaning of animal holding areas have saved water.

In 1998 the Zoo completed computerized energy management systems for all buildings and exhibits and reduced electricity. For example, the Education Center's electricity use was reduced by 40% and at the Sonora Desert where the air is cooled to reduce the humidity and then heated to 80 degrees. Also, Rangers and other staff use bicycles instead of vehicles to traverse the 500-acre site resulting in less gasoline consumption and air pollution. The Zoo also recycles 21 different items, from paper and plastic to cooking grease and in 1999 the Zoo composted 1,569 tons of animal manures, plant material and food scraps. The new Compost Center completed in 1998 is paved with donated power plant flyash and has increased the types of manures that can be composted. The Zoo has a demonstration backyard compost exhibit in the Touch and Learn Center to inform visitors about how to get started.

Installing water meters and water saving devices has reduced water costs significantly. The upgrades to the aquatic system alone have saves 340,000 gallons and \$2,400 per year. The computerized energy management has reduced electricity use significantly. For example, the Education Center's electricity use was reduced by 40%. This alone saves 336,000 kWh per year and \$23,700. The two bicycles in the Ranger unit save 1000 miles a year, each resulting in savings of \$620 a year. All the Zoo's recycling saves about 176,800 lbs. and \$4,400 in hauling and tipping fees per year. In 1999 the Zoo composted 1,569 tons of animal manures, plant material and food scraps at an annual savings of \$86,000 in waste disposal and \$2,500 in soil supplement costs.

For more information contact Mary Joan Pugh, 336-879-7110

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